

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: io LED

Report Number: P135945

Luminaire Tested: **LD6A20D010TE ERM6A20830 6LM121H**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P135945
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P23373)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: LD6A20D010TE ERM6A20830 6LM121H
Description: PORTFOLIO 6 INCH 50 DEGREE CUTOFF RECESSED DOUBLE WALL WASH LUMINAIRE
SEMI-SPECULAR CLEAR TRIM AND SPECULAR CLEAR KICKER
Light Source: (1) HIGH LUMEN LED 3000K
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2325.0 lumens
Efficiency: N/A
Efficacy: 70.9 lumens/watt
Spacing Criteria (0/90/45): 0.96 / 1.06 / 1.01
Luminous Opening: Circular (Dia: 0.46' x H: 0')
CIE Type: Direct

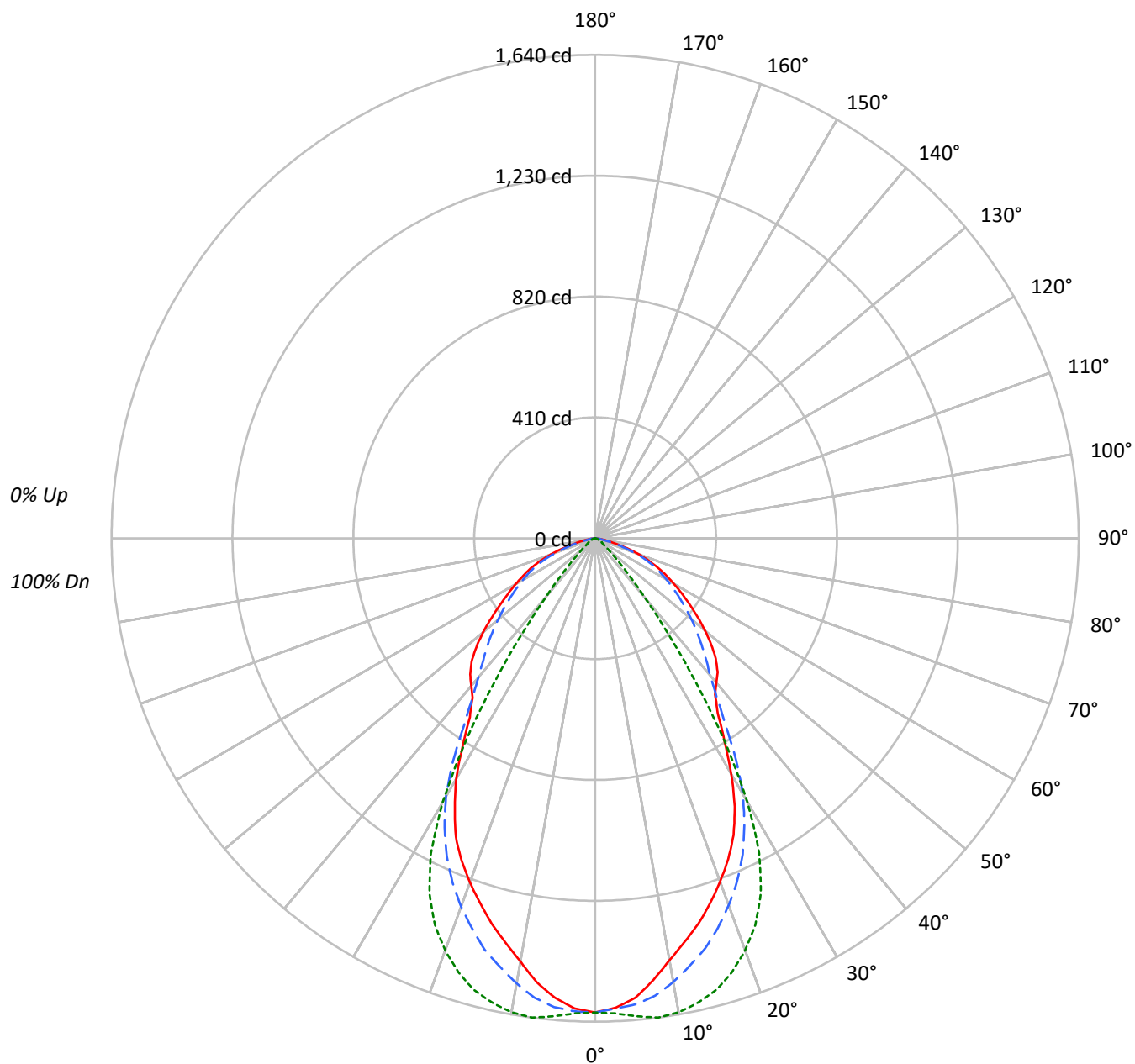
Input Watts (W): 32.8
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P135945

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20					20					20					20
RC	80				70					50					30					10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100		
1	111	108	104	102	109	106	103	100	101	99	97	98	96	94	94	93	91	89		
2	104	97	92	87	101	95	90	86	92	88	84	89	85	82	86	83	81	79		
3	96	88	81	76	94	86	80	75	84	78	74	81	77	73	79	75	72	70		
4	90	80	73	67	88	79	72	67	76	71	66	74	69	65	72	68	64	62		
5	84	73	66	60	82	72	65	60	70	64	59	68	63	59	67	62	58	56		
6	78	67	60	54	77	66	59	54	65	58	54	63	57	53	62	57	53	51		
7	74	62	55	49	72	61	54	49	60	53	49	59	53	49	57	52	48	47		
8	69	58	50	45	68	57	50	45	56	49	45	55	49	45	53	48	44	43		
9	65	54	46	42	64	53	46	41	52	46	41	51	45	41	50	45	41	39		
10	62	50	43	38	61	50	43	38	49	43	38	48	42	38	47	42	38	36		

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	104946	104946	104946
5°	102485	106617	102485
10°	96264	108175	96588
15°	91418	107169	91418
20°	86042	103246	86208
25°	79939	95683	80465
30°	69563	77797	71024
35°	57670	47030	59024
40°	54429	21939	55664
45°	53356	10315	54703
50°	49327	5430	50312
55°	44496	3594	44769
60°	40267	2858	40580
65°	36015	2254	37142
70°	29662	1850	30596
75°	19611	1235	19611
80°	10971	902	10971
85°	7261	0	5464



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CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM121H

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.1	6.5
10°-20°	407.1	17.5
20°-30°	544.1	23.4
30°-40°	449.9	19.4
40°-50°	322.8	13.9
50°-60°	237.3	10.2
60°-70°	153.2	6.6
70°-80°	54.3	2.3
80°-90°	6.3	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1101.2	47.4
0°-40°	1551.1	66.7
0°-60°	2111.2	90.8
0°-90°	2325.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2325.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1609	1609	1609	1609	1609	
5°	1565	1587	1628	1596	1565	146
15°	1354	1441	1587	1446	1354	380
25°	1110	1183	1329	1191	1118	504
35°	724	768	590	775	741	466
45°	578	510	112	518	593	442
55°	391	348	32	352	394	351
65°	233	216	15	219	241	230
75°	78	63	5	63	78	88
85°	10	5	0	5	7	12
90°	0	0	0	0	0	



TEST NUMBER: P135945

CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM121H

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6
2.5°	1594.0	1581.9	1591.6	1581.9	1584.3	1594.0	1596.5	1601.3	1603.7	1596.5	1596.5
5°	1564.9	1552.7	1564.9	1555.1	1560.0	1572.2	1574.6	1584.3	1589.2	1586.7	1591.6
7.5°	1511.4	1501.7	1513.8	1506.5	1513.8	1530.8	1538.1	1550.3	1560.0	1564.9	1572.2
10°	1453.1	1443.4	1455.5	1448.2	1460.4	1479.8	1487.1	1501.7	1516.3	1528.4	1540.6
12.5°	1402.1	1392.3	1399.6	1397.2	1409.4	1426.4	1438.5	1455.5	1472.5	1484.7	1501.7
15°	1353.5	1343.7	1353.5	1348.6	1358.3	1377.8	1389.9	1406.9	1426.4	1440.9	1460.4
17.5°	1297.6	1287.9	1295.1	1292.7	1302.4	1319.4	1331.6	1348.6	1368.0	1385.1	1404.5
20°	1239.3	1229.5	1236.8	1232.0	1241.7	1261.1	1270.8	1290.3	1307.3	1324.3	1341.3
22.5°	1178.5	1168.8	1178.5	1171.2	1185.8	1197.9	1207.7	1227.1	1241.7	1258.7	1273.3
25°	1110.5	1100.8	1108.0	1103.2	1112.9	1127.5	1134.8	1154.2	1166.4	1183.4	1197.9
27.5°	1025.4	1013.3	1027.9	1018.1	1030.3	1042.4	1049.7	1066.7	1081.3	1095.9	1108.0
30°	923.4	913.6	928.2	920.9	935.5	945.2	955.0	972.0	984.1	1001.1	1003.6
32.5°	816.5	811.6	823.7	818.9	833.5	843.2	850.5	867.5	877.2	886.9	879.6
35°	724.1	719.3	731.4	729.0	741.1	748.4	755.7	765.4	765.4	767.9	748.4
37.5°	668.2	665.8	675.5	673.1	682.8	690.1	690.1	692.5	687.7	675.5	646.4
40°	639.1	636.6	643.9	641.5	648.8	651.2	648.8	643.9	629.3	605.0	566.2
42.5°	614.8	609.9	614.8	612.3	617.2	619.6	612.3	605.0	585.6	556.5	510.3
45°	578.3	573.5	580.8	575.9	580.8	580.8	573.5	563.7	541.9	510.3	461.7
47.5°	534.6	529.7	537.0	532.2	537.0	537.0	529.7	520.0	498.1	466.5	417.9
50°	486.0	481.1	486.0	483.6	488.4	490.8	481.1	473.8	454.4	425.2	376.6
52.5°	437.4	432.5	437.4	437.4	439.8	439.8	432.5	427.7	410.7	383.9	340.2
55°	391.2	386.4	393.6	391.2	393.6	393.6	386.4	381.5	369.3	347.5	306.2
57.5°	347.5	345.0	349.9	347.5	347.5	347.5	342.6	340.2	330.5	311.0	277.0
60°	308.6	303.7	306.2	306.2	306.2	308.6	303.7	301.3	294.0	279.4	247.9
62.5°	269.7	267.3	269.7	267.3	267.3	269.7	267.3	264.9	260.0	247.9	221.1
65°	233.3	228.4	233.3	230.8	230.8	230.8	228.4	228.4	223.6	216.3	192.0
67.5°	194.4	192.0	194.4	192.0	189.5	189.5	187.1	187.1	184.7	179.8	157.9
70°	155.5	150.7	153.1	148.2	150.7	145.8	145.8	143.4	140.9	138.5	121.5
72.5°	114.2	111.8	111.8	106.9	106.9	104.5	102.1	102.1	99.6	99.6	87.5
75°	77.8	77.8	75.3	70.5	72.9	68.0	68.0	68.0	65.6	63.2	55.9
77.5°	51.0	48.6	48.6	46.2	46.2	41.3	43.7	41.3	41.3	38.9	34.0
80°	29.2	29.2	29.2	26.7	26.7	24.3	24.3	24.3	21.9	21.9	19.4
82.5°	17.0	17.0	17.0	14.6	14.6	14.6	14.6	12.1	12.1	12.1	9.7
85°	9.7	7.3	7.3	7.3	7.3	7.3	7.3	4.9	4.9	4.9	4.9
87.5°	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P135945

CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM121H

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6
2.5°	1606.2	1603.7	1601.3	1611.0	1613.5	1606.2	1606.2	1613.5	1618.3	1606.2	1603.7
5°	1603.7	1606.2	1606.2	1618.3	1625.6	1620.8	1620.8	1628.0	1632.9	1618.3	1613.5
7.5°	1591.6	1598.9	1603.7	1620.8	1632.9	1630.5	1632.9	1640.2	1642.6	1628.0	1620.8
10°	1564.9	1574.6	1584.3	1606.2	1620.8	1623.2	1625.6	1632.9	1637.8	1618.3	1608.6
12.5°	1528.4	1543.0	1557.6	1581.9	1598.9	1601.3	1608.6	1613.5	1615.9	1598.9	1586.7
15°	1487.1	1506.5	1521.1	1547.9	1567.3	1572.2	1579.4	1586.7	1586.7	1567.3	1555.1
17.5°	1436.1	1453.1	1472.5	1499.3	1521.1	1526.0	1535.7	1543.0	1543.0	1523.6	1506.5
20°	1372.9	1392.3	1409.4	1438.5	1462.8	1470.1	1479.8	1487.1	1487.1	1470.1	1448.2
22.5°	1307.3	1326.7	1343.7	1370.5	1394.8	1402.1	1409.4	1419.1	1416.6	1402.1	1382.6
25°	1229.5	1246.5	1258.7	1285.4	1304.9	1312.2	1321.9	1329.2	1326.7	1312.2	1295.1
27.5°	1134.8	1146.9	1149.4	1166.4	1183.4	1190.7	1197.9	1205.2	1202.8	1190.7	1176.1
30°	1025.4	1023.0	1010.8	1010.8	1018.1	1023.0	1027.9	1032.7	1030.3	1023.0	1013.3
32.5°	886.9	869.9	838.3	821.3	814.0	814.0	814.0	818.9	816.5	814.0	814.0
35°	738.7	702.2	653.6	617.2	597.8	590.5	585.6	590.5	588.0	590.5	600.2
37.5°	617.2	563.7	498.1	449.5	417.9	403.4	393.6	396.1	396.1	403.4	420.4
40°	527.3	459.3	386.4	325.6	289.2	269.7	257.6	257.6	260.0	269.7	291.6
42.5°	459.3	383.9	303.7	245.4	201.7	182.2	170.1	167.7	170.1	182.2	204.1
45°	405.8	325.6	245.4	182.2	145.8	123.9	114.2	111.8	114.2	126.4	145.8
47.5°	359.6	279.4	204.1	140.9	104.5	87.5	77.8	75.3	80.2	89.9	106.9
50°	320.7	243.0	167.7	111.8	80.2	63.2	55.9	53.5	55.9	65.6	80.2
52.5°	284.3	211.4	140.9	87.5	60.7	48.6	41.3	38.9	41.3	48.6	63.2
55°	255.1	187.1	121.5	72.9	48.6	38.9	34.0	31.6	34.0	38.9	51.0
57.5°	228.4	165.2	104.5	60.7	41.3	31.6	26.7	26.7	26.7	31.6	41.3
60°	204.1	145.8	89.9	51.0	34.0	26.7	21.9	21.9	21.9	26.7	34.0
62.5°	182.2	128.8	77.8	43.7	29.2	21.9	19.4	19.4	19.4	21.9	29.2
65°	155.5	109.3	65.6	36.4	24.3	19.4	17.0	14.6	17.0	19.4	24.3
67.5°	128.8	89.9	53.5	29.2	19.4	14.6	12.1	12.1	12.1	14.6	19.4
70°	99.6	70.5	41.3	21.9	14.6	12.1	9.7	9.7	9.7	12.1	14.6
72.5°	68.0	48.6	29.2	17.0	12.1	9.7	7.3	7.3	7.3	9.7	12.1
75°	43.7	31.6	19.4	12.1	7.3	7.3	4.9	4.9	4.9	7.3	7.3
77.5°	26.7	19.4	12.1	7.3	4.9	4.9	4.9	4.9	4.9	4.9	4.9
80°	14.6	12.1	7.3	4.9	4.9	2.4	2.4	2.4	2.4	2.4	2.4
82.5°	7.3	7.3	4.9	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
85°	2.4	2.4	2.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P135945

CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM121H

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6	1608.6
2.5°	1603.7	1608.6	1611.0	1601.3	1603.7	1606.2	1591.6	1594.0	1586.7	1601.3	1594.0
5°	1611.0	1613.5	1615.9	1601.3	1598.9	1596.5	1579.4	1577.0	1567.3	1579.4	1572.2
7.5°	1613.5	1608.6	1608.6	1586.7	1579.4	1572.2	1550.3	1543.0	1530.8	1535.7	1526.0
10°	1601.3	1591.6	1584.3	1557.6	1545.4	1533.3	1506.5	1496.8	1479.8	1482.2	1470.1
12.5°	1574.6	1562.4	1550.3	1521.1	1506.5	1489.5	1462.8	1448.2	1431.2	1431.2	1416.6
15°	1540.6	1526.0	1511.4	1482.2	1462.8	1445.8	1414.2	1399.6	1382.6	1380.2	1368.0
17.5°	1492.0	1475.0	1460.4	1426.4	1406.9	1387.5	1358.3	1341.3	1324.3	1324.3	1309.7
20°	1433.7	1414.2	1397.2	1365.6	1346.2	1329.2	1295.1	1280.6	1266.0	1263.6	1251.4
22.5°	1365.6	1346.2	1331.6	1302.4	1280.6	1263.6	1234.4	1222.2	1207.7	1205.2	1190.7
25°	1280.6	1263.6	1249.0	1224.7	1205.2	1190.7	1163.9	1149.4	1139.6	1139.6	1127.5
27.5°	1166.4	1151.8	1149.4	1129.9	1115.3	1105.6	1083.7	1074.0	1061.9	1061.9	1047.3
30°	1013.3	1015.7	1025.4	1020.6	1015.7	1010.8	991.4	989.0	974.4	972.0	955.0
32.5°	826.2	843.2	869.9	884.5	891.8	896.6	891.8	886.9	874.8	872.3	852.9
35°	626.9	660.9	704.7	733.8	758.1	775.1	782.4	782.4	777.6	775.1	758.1
37.5°	454.4	505.4	563.7	612.3	651.2	682.8	697.4	707.1	707.1	707.1	699.8
40°	332.9	393.6	461.7	524.9	573.5	614.8	636.6	653.6	658.5	665.8	660.9
42.5°	247.9	313.5	386.4	459.3	515.1	561.3	590.5	609.9	622.1	629.3	629.3
45°	189.5	255.1	330.5	408.2	466.5	517.6	546.7	568.6	580.8	590.5	590.5
47.5°	145.8	209.0	284.3	362.1	422.8	473.8	503.0	522.4	534.6	544.3	544.3
50°	114.2	172.5	245.4	320.7	381.5	430.1	456.8	476.3	486.0	493.3	495.7
52.5°	92.3	145.8	216.3	289.2	345.0	388.8	410.7	427.7	437.4	442.2	444.7
55°	75.3	126.4	192.0	257.6	311.0	352.3	371.8	383.9	391.2	396.1	396.1
57.5°	63.2	109.3	170.1	233.3	284.3	315.9	332.9	342.6	347.5	352.3	352.3
60°	53.5	94.8	150.7	209.0	255.1	284.3	296.4	303.7	308.6	311.0	311.0
62.5°	46.2	80.2	131.2	184.7	226.0	252.7	262.4	267.3	269.7	269.7	272.2
65°	38.9	68.0	111.8	160.4	194.4	218.7	226.0	228.4	228.4	230.8	233.3
67.5°	29.2	53.5	89.9	131.2	160.4	179.8	187.1	187.1	187.1	187.1	189.5
70°	24.3	41.3	68.0	99.6	123.9	138.5	143.4	143.4	143.4	143.4	145.8
72.5°	17.0	29.2	48.6	70.5	89.9	99.6	99.6	102.1	99.6	99.6	104.5
75°	12.1	19.4	31.6	46.2	55.9	63.2	65.6	65.6	65.6	65.6	68.0
77.5°	7.3	12.1	19.4	26.7	36.4	38.9	41.3	41.3	41.3	41.3	43.7
80°	4.9	7.3	12.1	17.0	19.4	21.9	24.3	24.3	24.3	24.3	24.3
82.5°	2.4	4.9	7.3	7.3	9.7	12.1	12.1	12.1	12.1	12.1	14.6
85°	0.0	2.4	2.4	4.9	4.9	4.9	4.9	4.9	4.9	4.9	7.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P135945

CATALOG NUMBER: LD6A20D010TE ERM6A20830 6LM121H

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°
0°	1608.6	1608.6	1608.6	1608.6
2.5°	1579.4	1596.5	1584.3	1596.5
5°	1555.1	1569.7	1555.1	1564.9
7.5°	1506.5	1518.7	1504.1	1518.7
10°	1448.2	1460.4	1445.8	1458.0
12.5°	1394.8	1404.5	1389.9	1404.5
15°	1346.2	1355.9	1341.3	1353.5
17.5°	1290.3	1297.6	1285.4	1297.6
20°	1232.0	1239.3	1229.5	1241.7
22.5°	1173.6	1183.4	1171.2	1183.4
25°	1108.0	1115.3	1103.2	1117.8
27.5°	1030.3	1035.1	1023.0	1030.3
30°	935.5	937.9	928.2	942.8
32.5°	835.9	835.9	821.3	835.9
35°	743.6	741.1	731.4	741.1
37.5°	685.2	685.2	677.9	682.8
40°	651.2	653.6	643.9	653.6
42.5°	622.1	626.9	619.6	626.9
45°	585.6	590.5	583.2	592.9
47.5°	539.4	544.3	539.4	546.7
50°	488.4	493.3	488.4	495.7
52.5°	437.4	442.2	437.4	442.2
55°	391.2	393.6	388.8	393.6
57.5°	347.5	349.9	345.0	349.9
60°	306.2	311.0	306.2	311.0
62.5°	269.7	272.2	272.2	274.6
65°	230.8	240.6	238.1	240.6
67.5°	192.0	199.3	199.3	201.7
70°	148.2	153.1	157.9	160.4
72.5°	104.5	111.8	114.2	116.6
75°	68.0	75.3	75.3	77.8
77.5°	43.7	48.6	48.6	48.6
80°	26.7	29.2	26.7	29.2
82.5°	14.6	14.6	14.6	17.0
85°	7.3	7.3	7.3	7.3
87.5°	2.4	2.4	2.4	2.4
90°	0.0	0.0	0.0	0.0



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— 0°-180° - - 45°-225° - - - 90°-270°













(END OF REPORT)